REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the following remarks.

Applicant wishes to thank the examiner for the courtesy extended to Applicant's representative during a telephone interview conducted on February 2, 2011. The participants were Examiner Lihong Yu and David Ward, Reg. No. 45,198. A summary of the substance of the interview is provided below. During the interview, the following claims and rejections were discussed: claims 1, 2, and 10, under 35 USC §103(a), as being unpatentable over Li et al. (US 6,904,283) in view of Wesel et al. (US 6,125,150) and Kwon et al. (US 6,151,328); claim 3, under 35 USC §103(a), as being unpatentable over Li in view of Wesel, Kwon, and Brink et al. (US 6,038,450); and claim 4, under 35 USC §103(a), as being unpatentable over Li in view of Wesel, Kwon, and Todd (US 5,357,284).

The Applicant's representative noted that claim 1 defines:

> *A multicarrier communication apparatus comprising:*
> *a superimposing section that superimposes transmission symbols with a subcarrier group having a plurality of subcarriers;*
> *a control section that controls a combined transmission power of the subcarrier group on which the transmission symbols are superimposed; and*
> *a transmission section that transmits a multicarrier signal obtained by controlling the combined transmission power of the subcarrier group, wherein:*
> *the control section controls the combined transmission power of the subcarrier group, by evenly distributing, to each subcarrier of the subcarrier group, a power control amount to increase or decrease the combined transmission power of the subcarrier group, the power control amount corresponding to a difference between a combined received power for the subcarrier group at a remote communication station and a desired target received power.*

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The Applicant's representative noted that claim 1 provides a multicarrier communication apparatus that controls a combined transmission power of a subcarrier group by evenly distributing a power control amount to each subcarrier of the subcarrier group. The power control amount increases or decreases the combined transmission power of the subcarrier group and corresponds to a difference between the combined receive power for the subcarrier group at a remote communication station and a desired target receive power. The claimed subject matter provides advantages of reducing the range of fluctuation of required transmission power and reducing the amount of feedback required for converging the actual and desired reception power for a group of subcarriers (see paragraph [0086] of Applicant's published specification). (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.)

It was noted that he Final Rejection proposes that Li discloses Applicant's claimed subject matter of controlling the transmission power of a subcarrier group according to a power difference (see Final Rejection section 1, lines 11-16). More specifically, the Final Rejection proposes that Li discloses: (1) selecting a cluster based on a calculated power difference (see section 1, lines 11-12), (2) that each cluster (e.g., subcarrier group) has an associated transmission power (see section 1, lines 14-15), and (3) that when a cluster is selected for transmission, its associated transmission power is necessarily selected (see section 1, line 15); based on items (1)-(3), the Final Rejection concludes that Li must disclose Applicant's claimed subject matter of controlling the transmission power of a subcarrier group based on a power difference (see section 1, line 16).

However, the Final Rejection's conclusion presupposes that each of Li's clusters has a fixed amount of transmission power associated with it for all times, past, present, and future. Li provides no such disclosure. Nothing disclosed by Li suggests that a cluster previously transmitted with a power of X units of power must be transmitted at a later time with X units of power and not some other amount of power. Thus, because Li does not disclose that each transmission of the same cluster must be transmitted with the same amount of power, it necessarily follows that no support exists within Li's disclosure for the Final Rejection's conclusion that Li's selection of a cluster controls the transmission power for this cluster.

Accordingly, the Applicant's representative noted that Li does not disclose that the selection of a cluster has any effect on the transmission power applied to the cluster. In light of this fact, the correspondence between Li's calculated power difference and the selection of a cluster does not provide a correspondence between Li's calculated power difference and the amount of power applied to a selected cluster. Therefore, the Final Rejection's proposal that Li discloses Applicant's claimed subject matter of controlling the transmission power of a subcarrier group according to a power difference is unsupported.

In response to the presentation of the immediately preceding remarks during the interview, the examiner proposed that Li discloses: (1) selecting a cluster (i.e., subcarrier group) and not selecting other clusters based on a power difference (see Li col. 10, lines 25-28) and (2) not applying power to the clusters not selected. Based on items (1) and (2), the examiner concluded that Li discloses controlling the transmission power of an unselected cluster, by setting its associated power to zero, and that the unselected cluster is chosen based on a power difference.

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The Applicant's representative noted, however, that the Applicant's claimed subcarrier group has transmission symbols superimposed on it and its power is increased or decreased prior to transmission. By definition, a _transmitted_ subcarrier group cannot have zero power, because a zero-power signal cannot travel or be transmitted. Moreover, a skilled artisan would find no motivation to: (1) increase/decrease the zero amount of power applied to a signal (i.e., cluster) that is not to be transmitted and (2) superimpose symbols on a signal that is not to be transmitted. Applicant respectfully submits that the Office has considered individual limitations of Applicant's claims in abstract and out of context.

Moreover, it was noted that the Final Rejection proposes that Li discloses Applicant's claimed subject matter of distributing, to a subcarrier group, a power control amount corresponding to a difference between a combined received power for the subcarrier group and a desired target received power (see Final Rejection page 5, lines 7-15). More specifically, the Final Rejection proposes that: (1) Li's disclosed cluster power received during a pilot period (P_P) corresponds to Applicant's claimed desired target receive power and (2) Li's disclosed cluster power received during a data traffic period (P_D) corresponds to Applicant's claimed subcarrier group combined receive power (see page 5, lines 11-15).

However, the Applicant's representative noted that Li discloses that for any measurement of P_D that includes the power of the received cluster (P_S), P_D must also include the powers of the received interference (P_N) and noise (P_N) (see Li col. 10, lines 7-24). Applicant's claimed combined receive power for a subcarrier group corresponds to Li's power of a received cluster P_S, not to Li's parameter P_D, because Li's parameter P_D includes measurements of received interference power P_I and noise power P_N and Applicant's combined received power for a

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subcarrier group does not. Thus, when applying Li's terminology to Applicant's claimed subject matter, for ease of comparison, Li discloses calculating the difference $P_P - (P_S + P_I + P_N)$, whereas Applicant's claim 1 recites calculating the difference $P_P - P_S$. And because interference and noise power is never a zero-valued quantity in real-world communication channels, as disclosed by Li, Li's calculated difference and Applicant's claimed difference would produce different values, assuming the values of P_P and P_S to be the same for each of the comparative calculations. Accordingly, the Applicant's representative noted that Li does not disclose Applicant's claimed subject matter of distributing, to a subcarrier group, a power control amount corresponding to a difference between a combined received power for the subcarrier group and a desired target received power.

In response to the presentation of the immediately preceding remarks during the interview, the examiner proposed that: (a) Li's difference equation (i.e., $P_P - P_S - P_I - P_N$) is more detailed than the claimed difference (e.g., $P_P - P_S$, using Li's terminology for convenience of comparison), in terms of additional parameters, and (2) with respect to Applicant's claimed limitation of a difference value, Li's more detailed difference equation is a species of the claimed genus and, thus, renders this genus non-novel.

The Applicant's representative stated that the above points advanced by the Examiner confuse the issues of: (1) a reference identically disclosing the subject matter of a claim and additionally disclosing features not recited in the claim and (2) a reference that does not identically disclose the claimed subject matter but makes use of some claimed limitations in a different way. It was noted that Li's disclosure is not a species of the claimed limitation because Li's equation produces a different result than the claimed limitation.

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The Applicant's representative gave an example as follows. Assume the claimed difference corresponds to Li's P_P - P_S and that P_P = 10 units, P_S = 6 units, P_I = 1 unit, and P_N = 2 units. The claimed difference would produce a result of 4 units, whereas Li's equation P_P - P_S - P_I - P_N would produce a result of 1 unit. Thus, Applicant's claims would evenly distribute an increase/decrease of power corresponding to 4 units to subcarriers of a subcarrier group. Li's system would neither distribute 1 nor 4 units of power, but instead would select a particular cluster (e.g., subcarrier group) for transmission based on the power difference result of 1 unit. Li's system would not distribute 1 unit of power to a cluster that is not to be transmitted, as seemingly proposed by the Office during the interview.

In summary, the Applicant's representative noted that Li does not disclose Applicant's claimed subject matter of: (1) controlling the transmission power of a subcarrier group according to a power difference and (2) distributing, to a subcarrier group, a power control amount corresponding to a difference between a combined received power for the subcarrier group and a desired target received power. Wesel and Kwon are not cited in the Final Rejection for supplementing the teachings of Li in this regard.

Accordingly, it is submitted that the teachings of Li, Wesel, and Kwon, even if combined as proposed in the Final Rejection, still would lack the above-noted features of claim 1 and thus these references, considered individually or in combination, do not render obvious the subject matter defined by claim 1. Independent claim 10 similarly recites the above-mentioned subject matter distinguishing apparatus claim 1 from the applied references, but does so with respect to a method. Therefore, allowance of claims 1 and 10 and all claims dependent therefrom is warranted.

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The Applicant's representative asserted the following further points.

With regard to Applicant's claim 4, the Final Rejection applies the exact same basis for the rejection applied to claim 4 in the Office Action dated June 22, 2010, without even incorporating Kwon's teachings as applied to claim 4's base claim in the pending Final Rejection. In Applicant's Amendment of September 22, 2010, Applicant provided a detailed rebuttal of the Office Action's basis for the rejection of claim 4. The Final Rejection fails to counter Applicant's rebuttal in any way and, thus, has failed to establish a basis for maintaining the rejection (see MPEP §2145, second to last sentence).

Applicant incorporates by reference the rebuttal of the rejection of claim 4 provided in Applicant's Amendment of September 22, 2010.

Applicant further notes that the Final Rejection proposes that Todd discloses, in Fig. 8, superimposing transmission symbols with a subcarrier group, using combining logic 822, after substituting an in-phase or an orthogonal component (see Final Rejection page 9, second paragraph). However, Todd discloses that Fig. 8 illustrates a digital demodulation scheme used in a receiver (see Todd col. 6, lines 65-66), whereas the Applicant's claimed subject matter relates to a modulation scheme used in a transmitter. The Final Rejection fails to indicate how the bit stream output by Todd's combining logic 822 produces transmission symbols that are superimposed on a subcarrier group. Li, Wesel, and Kwon are not cited in the Final Rejection for supplementing the teachings of Todd in this regard. Therefore, allowance of claim 4 is deemed to be warranted for these independent reasons.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

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If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

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JEL/DWW/att

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